

## Addressing Impaired Waters in the North Coast

Presentation to  
Board of Forestry's Forest Practice Committee

January 27, 2015

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North Coast Regional Water Quality Control Board

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## Presentation Outline

1. Regional Water Board's Forestry Program
2. Impaired Waters
3. Addressing Impaired Waters through
  - a. TMDLs
  - b. Permits
  - c. Regional Policies
  - d. Other Regulatory Mechanisms
4. Effectiveness Monitoring & Assessments
5. Open Discussion

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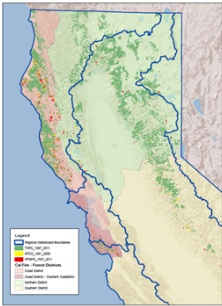
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## North Coast Region

Statewide Non-Federal Timber Harvest Activity



- 12% of state's area
- 40% of state's runoff
- 57% of North Coast is timberland
- 37% of timberlands in state
- Approximately 60% of Region sediment or temperature impaired

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## Regional Board Timber Program

- Participate in CAL FIRE THP review process
- Permit USFS forestry and related projects
- Independent permitting of THPs
- Provide input to BOF in rule making
- Participate in interagency timber review (1492)
- Participate in monitoring and restoration projects

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## Water Quality and Timber Harvest

### Regional Water Board Timber Permits

- Required by Porter-Cologne and the Nonpoint Source Policy
- Permits generally rely on, and build upon, existing programs or regulations, such as the FPRs, Aquatic Habitat Conservation Plans, Northwest Forest Plan
- Add additional conditions as necessary to meet water quality requirements

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## Regional Water Board Permits

1. General Waste Discharge Requirements (WDRs)
2. Waiver of Waste Discharge Requirements
3. Ownership Permits
  - Green Diamond Forest Management WDR
  - Green Diamond Roads WDR
  - U.S. Forest Service Nonpoint Source Waiver
4. Watershed Permits
  - Elk River, Freshwater Creek, Bear and Jordan Creeks
5. Individual WDR or Waiver

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## What are Impaired Waters?

- Waterbodies that do not meet water quality standards.

Standards = Beneficial Uses +  
Water Quality Objectives +  
Implementation Policies

- Listed as impaired on the 303(d) List
- Each listing is known as a "Waterbody-Pollutant Pair"

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## Waterbodies vs. Watersheds

- Each waterbody has its own geographic extent
- Historical listings were by Hydrologic Areas (HUC 8) or Hydrologic Subareas (HUC 10)
- Re-segmentation is underway to split and refine waterbodies



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## North Coast Impairments

- Sediment
- Temperature
- Pathogens (indicator bacteria, *E. coli*)
- Biostimulatory Conditions
  - Nutrients (nitrogen & phosphorus)
  - Dissolved Oxygen
  - pH
- Microcystin Toxins
- Mercury
- Aluminum
- Dioxins
- PCBs

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## How Are Waterbodies Listed or Delisted?

1. Obtain data
2. Analyze data according to rules of the Listing Policy
3. Develop Lines of Evidence
4. Make Decision
5. Regional Board Consideration
6. State Board Consideration
7. EPA Approval

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## Sample Size vs. Exceedance Listing Thresholds

### To List

TABLE 3.2: MINIMUM NUMBER OF MEASURED EXCEEDANCES NEEDED TO PLACE A WATER SEGMENT ON THE SECTION 303(d) LIST FOR CONVENTIONAL OR OTHER POLLUTANTS.

*Null Hypothesis: Actual exceedance proportion  $\leq 10$  percent.  
Alternate Hypothesis: Actual proportion  $> 25$  percent.  
The minimum effect size is 15 percent.*

| Sample Size | List if the number of exceedances equal or is greater than |
|-------------|--|
| 5 - 30      | 5*   |
| 31 - 36     | 6  |
| 37 - 42     | 7  |
| 43 - 48     | 8  |
| 49 - 54     | 9  |
| 55 - 60     | 10   |
| 61 - 66     | 11   |
| 67 - 72     | 12   |

### To Delist

TABLE 4.2: MAXIMUM NUMBER OF MEASURED EXCEEDANCES ALLOWED TO REMOVE A WATER SEGMENT FROM THE SECTION 303(d) LIST FOR CONVENTIONAL OR OTHER POLLUTANTS.

*Null Hypothesis: Actual exceedance proportion  $\geq 25$  percent.  
Alternate Hypothesis: Actual exceedance proportion  $< 10$  percent.  
The minimum effect size is 15 percent.*

| Sample Size | Delist if the number of exceedances equal or is less than |
|-------------|---|
| 26 - 30     | 4   |
| 31 - 36     | 5   |
| 37 - 42     | 6   |
| 43 - 48     | 7   |
| 49 - 54     | 8   |
| 55 - 60     | 9   |
| 61 - 66     | 10  |
| 67 - 72     | 11  |
| 73 - 77     | 12  |

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## For Questions on the 303(d) List

- [http://www.waterboards.ca.gov/northcoast/water\\_issues/programs/tmdl/303d/](http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdl/303d/)
- Katharine Carter  
707-576-2290  
kcarter@waterboards.ca.gov

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## How do we Address Impairments?

### Section 303(d) of the Clean Water Act

- Requires states to ID impaired waters
- Requires states to develop a total maximum daily load (TMDL) or implement another program to meet standards

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## Addressing Impaired Waters

- TMDLs
- Prohibitions
- Permits
- Region-wide Policies
- Enforcement Actions
- Inter-Agency Agreements (MOU, MAA)
- Agreements with Non-Agency Entity

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## What is a TMDL?

- Surface Water Clean-up Plan
- The maximum amount of a pollutant that a waterbody can handle and remain healthy

### Example TMDL Units

|              |                                       |
|--------------|---------------------------------------|
| Sediment:    | tons of sediment per sq. mi. per year |
| Temperature: | potential effective shade             |
| Nutrients:   | lbs of total phosphorus per day       |
| Pathogens:   | mg/L of <i>E.coli</i>                 |

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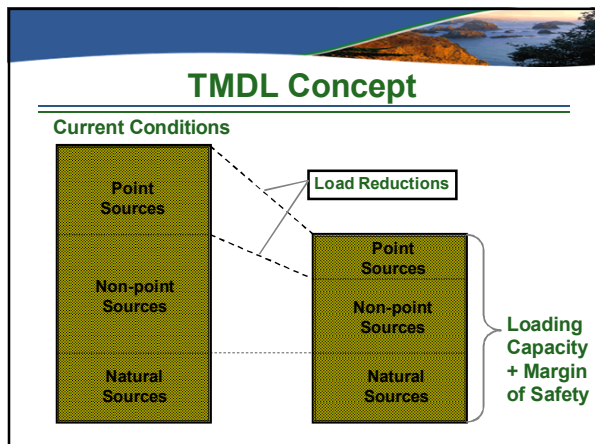
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- ### Technical TMDL Contents
- Problem Statement
  - Source Analysis
  - Targets
  - TMDL calculation
  - Load Allocations for each source
  - Margin of Safety & Seasonal Considerations
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- ### What about implementation?
- Not required by federal Clean Water Act
  - Many TMDLs established under the Consent Decree were not developed with implementation plans
  - Several TMDLs have watershed-specific implementation requirements as "TMDL Action Plans" in the Basin Plan
  - We are now focused more on implementation than developing new TMDLs
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**TMDL Adoption Options:**

- Established by USEPA
- Adopted via Basin Plan Amendment
- Adopted via Single Action
- Adopted via Certification

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Options for Addressing Impaired Waters

|                      | Technical TMDL | Implementation Plan | Monitoring Plan | CEQA Analysis                      | State Water Board Approval | USEPA Approval |
|----------------------|----------------|---------------------|-----------------|------------------------------------|----------------------------|----------------|
| USEPA Establishment  | ✓              |                     |                 |                                    |                            | ✓              |
| Basin Plan Amendment | ✓              | ✓                   | ✓               | ✓<br>Functional Equivalent Process | ✓                          | ✓              |
| Single Action        | ✓              | ✓                   | ✓               | ✓<br>Regular Process               |                            | ✓              |
| Certification        | ✓              | Use Existing        | Use Existing    | Use Existing                       |                            | ✓              |
| 4b Categorization    | Some           | Use Existing        | Use Existing    | Use Existing                       |                            | ✓              |

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## Addressing Impaired Waters

- TMDLs
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- Permits
- Enforcement Actions
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- Region-wide Policies

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## Prohibitions

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- Part of the Basin Plan in Ch 4: Implementation
- Prohibitions can be conditional

**Examples of Prohibitions in R1:**

"Discharges of waste that violate any narrative or numerical water quality objective that are not authorized by waste discharge requirements or other order or action by the Regional or State Water Board are prohibited."

"The controllable discharge of soil, silt, . . . into waters of the state within the Garcia River watershed is prohibited."

The prohibition does not apply to landowners managing their land in accordance with an approved Erosion Control Plan and Management Plan.

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## Permits

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- Waste Discharge Requirements
- Waivers of Waste Discharge Requirements
- NPDES Permits  
(e.g., stormwater, wastewater, Caltrans)

**Examples of Existing Nonpoint Source Permits in R1:**

- General WDRs & Waiver - Discharges related to Timber Harvesting on Non-Federal Lands
- Waiver - Nonpoint Source Discharges on National Forests
- WDRs - Discharges Related to Road Management for Green Diamond Resource Co
- Waiver - Discharges Related to Road Management on County Roads
- Waivers - Discharges from TMDL Implementation in the Scott & Shasta R Watersheds
- General WDRs & Waiver - Discharges from Cow Dairies

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## Enforcement Actions

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- Cleanup and Abatement Orders
- Administrative Civil Liabilities (fines)

### Inter-Agency Agreements

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- Memoranda of Understanding
- Management Agency Agreements

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## Region-wide Policies

- Used to address one or more activities or pollutants across multiple watersheds
- Sediment TMDL Implementation Policy
  - Directs staff to use all available authorities to pursue compliance with sediment WQ Objectives
  - Includes familiar sediment control process

Inventory → Prioritize → Schedule → Control/Fix → Monitor → Adapt

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## Region-wide Policies

### Temperature Policy

- Also directs staff to use available authorities
- States that controllable water quality factors affecting temperature include:
  - Anthropogenic activities which results in the removal of riparian vegetation that provides shade to a waterbody
  - Sediment discharges
  - Impoundments and other channel alterations
  - Reductions of instream summer flows
  - Reductions of cold water sources

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## What is the End Game?

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### Next Steps

1. Continue sediment control, riparian protection, and instream restoration efforts
2. Track & Assess Our Effectiveness
  - Are WLPZ operations keeping shade over streams and filtering sediment?
  - Are hillslope measures reducing sediment discharges?
  - Are our TMDLs working?
  - Are instream conditions changing?

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### Thank You

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